Junior-Senior High School

MONOGRAPH

Physical Education

Grades 7-12

1988

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JUNIOR-SENIOR HIGH SCHOOL
PHYSICAL EDUCATION
STUDENT EVALUATION MONOGRAPH

1988

A MONOGRAPH

PREPARED FOR

ALBERTA EDUCATION

by

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ALBERTA EDUCATION CATALOGUING IN PUBLICATION DATA

Alberta. Curriculum Design.
Junior-senior high school physical education student evalution monograph : a monograph prepared for Alberta Education.

Authors: Merri-Ann Ford, Dan Cooney, Joanne Susut.
ISBN 0-7732-0075-4

1. Physical education and training -- Alberta -- Testing. 2. Physical fitness -- Alberta -- Testing. I. Ford, Merri-Ann. II. Curriculum guides -- Alberta -- Physical education -- Secondary.

GV436.7.A3 1988 613.704

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FOREWORD

During the pilot and validation phases of the development of the new *Junior-Senior High School Physical Education Curriculum Guide* (1988), physical educators suggested that a resource to assist teachers in student evaluation was much needed. Student evaluation provides students, parents, teachers, and administrators with an indication of how well students are learning; it can also be used to monitor the effectiveness of physical education programs. It is important that students receive information on their progress as they participate in movement experiences. This information will help them make positive choices regarding lifelong participation in physical activity.

Inherent in any physical education curriculum is the potential to allow physical education teachers to grow as professional educators. Evaluation based upon ongoing observation and supported by test results provides teachers with feedback about their planning and teaching. This information can challenge physical educators to seek ways and means of improving programs.

Evaluation is an integral part of successful planning, program improvement, student learning, and student and teacher motivation. The evaluation process should reflect a balance of such evaluative criteria as physical skills, physical fitness, knowledge and understanding, social skills and positive attitudes. The relative weighting of these criteria should reflect the balance and emphasis in the program.

This monograph does not purport to include an exhaustive discussion of evaluative techniques, nor to recommend one technique over another. It is hoped that this monograph will assist teachers to plan for and implement evaluation procedures that are appropriate for their programs.

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CHAPTER ONE

OVERVIEW OF STUDENT EVALUATION

Student evaluation in physical education is a complex task. Consideration must be given to individual student development in physical fitness, skills, knowledge and understanding, attitudes and social skills. In spite of the diversity of learning that occurs in physical education classes, teachers are most often required to represent this development with a single, final grade assigned to a report card.

PURPOSES

Every school district, school, and teacher should establish an appropriate evaluation process to assess student progress. A question that often arises is, "Why is it important to evaluate students?" The answer to this question lies in the many purposes of evaluation:

1. **DIAGNOSING**: Evaluation can help identify students with learning problems.
2. **GROUPING**: Evaluation provides a basis for grouping students in ways that have the potential to improve the instructional setting.
3. **MOTIVATING**: Evaluation provides feedback that is essential if students are to reach higher levels of performance.
4. **GRADING**: Evaluation provides the basis for reports to students, parents, and administrators regarding student status, progress and achievement.
5. **PROGRAMMING**: Student assessment provides data for program evaluation, accountability and the evaluation of instruction.

PRINCIPLES

Responsible evaluation of student progress should be part of any educational process. Adherence to the following principles will ensure responsible student assessment in physical education:

1. Evaluation should relate to stated objectives in all program areas (fitness, psychomotor, cognitive and affective) and be weighted according to program emphasis.
2. Evaluation should indicate and discriminate between levels of student achievement.
3. Evaluation should consider such individual differences as body build, gender, experience and ability.
4. Physical educators within a given school should use similar evaluation procedures, and all students should be informed of the criteria prior to instruction.
5. Evaluation should be an ongoing process and one which is easily understood by the students.

PLANNING

The development of sound evaluation practices requires careful planning. Following is a series of questions that physical educators should consider when developing or altering their evaluation plans:

1. Are the yearly, unit, and daily objectives based upon provincial, system and school objectives?
2. Are there objectives for each physical fitness domain (psychomotor, cognitive, and affective)?
3. Are the objectives commensurate with student ability and potential?
4. Are the objectives measurable?
5. Are the evaluation procedures gender fair?
6. Are students made aware of evaluation philosophy, procedures, and criteria prior to the start of the program?
7. Is the evaluation system time efficient so that the majority of class time is used for instruction?

SUBJECTIVE/OBJECTIVE EVALUATION

The *Junior-Senior High School Physical Education Curriculum Guide* (1988) recognizes both forms of evaluation. Teachers are encouraged to use a variety of measures and assessments throughout the year. Subjective evaluation is based on the tester's personal judgment (e.g., the use of a rating scale to evaluate a student's ability to execute an overhand serve). Objective evaluation leaves no possible difference of opinion among testers (e.g., the student receives one point for each successful overhand serve).

It is desirable to use a combination of subjective and objective measurements in the evaluation process. This can be facilitated by developing an evaluation breakdown for the units to be taught. (An example of such a breakdown is given in Figure 1.) All units to be taught during the year, and the ways in which they are to be evaluated, are listed. As Figure 1 is examined, note that each domain is not necessarily measured in every unit and the range of marks in each domain falls within the provincial guidelines.

FIGURE 1
SAMPLE EVALUATION BREAKDOWN FOR SEVEN UNITS

Units	Student Exposure	Domain	Evaluation Type	Form	%
Social Dance	1 year	Psychomotor	Checklist	Subjective	40
		Affective	Checklist	Subjective	40
		Cognitive	Multiple Choice	Objective	20
Camping	0	Psychomotor			0
		Affective	Checklist	Subjective	80
		Cognitive	Short Answer	Subjective	20
Swimming	Variable	Psychomotor	Skills Test	Objective	80
		Affective			0
		Cognitive	True/False	Objective	20
			Multiple Choice		
Fitness	10 years	Psychomotor	Tests	Objective	60
		Affective	Checklist	Subjective	15
		Cognitive	Written Program	Subjective	25
Gymnastics	5 years	Psychomotor	Cooperative Routines	Subjective	15
		Affective			60
		Cognitive	Written Essay	Subjective	25
Basketball	4 years	Psychomotor	Skill Application	Subjective	20
		Cognitive	Short Answer	Subjective (50%)	25
		Affective	Multiple Choice	Objective (50%)	
		Fitness	Behaviour Application	Subjective	40
			Fitness Application (C.V.)	Objective	15
Team Handball	New	Psychomotor	Skill Mastery	Objective	40
		Cognitive	Multiple Choice	Objective	20
		Affective	Behaviour Application	Subjective	20
		Fitness	Fitness Application	Subjective	20

PRE-ASSESSMENT

It is important to set aside time at the beginning of each unit for pre-assessment. This pre-testing provides the teacher with individual student information concerning fitness levels, skills, knowledge, attitudes and appreciations. Pre-assessment can be done in all dimensions of physical education and is appropriate to all activities. Important questions which can be answered from pre-assessment include:

1. Which entry skills and knowledge do students exhibit and how will these impact on the planned instruction?

2. Do planned objectives and learning activities require modification because they are too easy/difficult for the students?

3. Do any students require special instruction (e.g., learning disabled or gifted students)?

Student pre-assessment can be done formally with the use of fitness, skill and cognitive tests, or informally using subjective evaluation techniques. For example, a common pre-assessment practice is to put students through a series of drills in order to complete a subjective evaluation of their performance. Formal skill tests used for pre-assessment purposes need not include an entire test battery. Selected items which will allow teachers to make judgments regarding student development in particular areas are most often sufficient. Formal and informal pre-assessments allow teachers to recognize individual differences and to plan activities in a manner that will foster further student development.

Fitness testing as a pre-assessment tool provides students with valuable information about their health and well-being. A fitness test given at the beginning of a term can be a building block for the entire fitness dimension. Students, knowing their present fitness levels, can relate this information to personal activity needs and develop an understanding of the relationship between exercise, health and well-being.

POST-ASSESSMENT

Post-assessment takes place following the completion of instruction. Post-tests are designed to measure the student behaviours or skills outlined in the objectives. Physical educators normally design or select ready-made tests to suit their particular needs.

A variety of techniques and procedures are used for post-testing. When selecting a method, take into account the time within which one must operate and the needs of the particular situation. Some common post-assessment techniques are:

1. **OBSERVATION:** This consists of watching students for a particular skill or behaviour. Although it is difficult to be objective, objectivity can be increased if one:

    a. knows the subject matter
    b. concentrates on specifics
    c. has a list of things to look for, and
    d. makes use of checklists, rating scales, or charts.

2. **SKILL TESTS:** These are objective tests that are most often used to measure motor skills and fitness. Teachers may construct their own tests or make use of the many available. Test planning consists of:

    a. deciding upon what one wishes to measure

   b. selecting the test items
   c. establishing reliability and validity, and
   d. developing norms.

3. **WRITTEN TEST:** This is the most common method for measuring knowledge and understanding. Written tests may be either subjective or objective in nature. They most often take the form of one of the following:

   a. essays
   b. short answers
   c. true/false questions
   d. multiple choice questions
   e. matching, or
   f. completing sentences.

4. **CHECKLIST**: This method provides a list of traits to be observed. Checklists are helpful in providing a focus for evaluation. They can be particularly useful for assessment in the psychomotor and affective domains.

5. **RATING SCALE**: Rating scales reflect different degrees of success in the quality of a trait being observed and are an excellent device for difficult-to-measure variables. They make observation more accurate. Use of rating scales involves the following:

   a. determining the criteria to be measured
   b. identifying the factors to be rated
   c. selecting the rating scale, and
   d. observing and recording.

6. **ANECDOTAL RECORDS**: These involve keeping a written record of teacher observations and are most often used for measuring in the affective domain by recording student behaviour and conduct. Since their development is quite time consuming for teachers, the use of anecdotal records is usually reserved for special cases where additional documentation is required.

7. **QUESTIONNAIRES**: These involve written responses to a series of questions. Questionnaires can be used to gather information on such diverse areas as student needs, interests, attitudes and past experiences. They are particularly useful when dealing with large groups.

8. **INTERVIEW**: This technique is particularly useful for obtaining personal data such as information regarding feelings and problems. Its greatest drawback is that because it requires a lot of time, its use may be limited to special cases or small numbers of students. The following should be kept in mind when using this technique:

   a. the interview should have a purpose
   b. the student should have prior knowledge of the purpose
   c. the interview should be conducted in private
   d. the atmosphere should be friendly
   e. sufficient time should be allowed, and
   f. the interviewer should provide direction and structure.

9. **AUTOBIOGRAPHIES**: These are short stories written by students about some phase of their lives. They may provide information regarding students' attitudes and feelings about a particular activity.

10. **INVENTORY**: This is a listing of traits, usually in the affective domain. Students complete inventories by analyzing their behaviour in relation to a problem that is posed. An inventory may provide information on social problems, but it is not usually valid enough to be used for grading purposes.

DETERMINING A FINAL GRADE

Students' marks are a composite of many elements that are usually weighted differently. The following is an example of the weighting for a basketball unit and a student score.

Area	Weighting	Student Score
Psychomotor	30%	26/30
Affective	30%	21/30
Cognitive	20%	20/20
Fitness	20%	10/20
	Total	77%

There are two methods of determining a final grade, each of which will have a different impact.

1. **EQUAL WEIGHTING**: One method of weighting the year would be to give each dimension an equal weighting regardless of the number of units taught within a dimension. The rationale for such a system could be that each dimension is unique and offers an equally important experience for the students. For example:

Unit	Student Score
Aquatics	75%
Gymnastics	88%
Dance	92%
Games	65%
Final Grade = 320/4 =	80%

2. **UNEQUAL WEIGHTING**: In this system, dimensions are given a different weighting depending upon their emphasis. For example:

Unit	Weighting	Student Score	Index
Aquatics	20%	75%	15.0
Gymnastics	30%	88%	26.4
Dance	10%	92%	9.2
Games	40%	65%	26.0
		Final Grade =	76.6%

REPORTING PROGRESS

Written reports of student progress are used to inform students, parents, teachers and administrators regarding student progress. It is advantageous to maintain a cumulative record of student progress. Figure 2 is an example of such a record.

FIGURE 2
SAMPLE CUMULATIVE RECORD

Grade: ____________________

HOME ROOM ____________ Name: ____________________

Date Registered: ____________________

ACTIVITIES	ATTENDANCE		UNIT MARKS			UNIT	COMMENTS
	Present	Total	Skill	Social	Written	%	
Swimming							
Folk Dance							
Basketball							
Curling							
Volleyball							
Badminton							
Tennis							
Gymnastics							
Golf							
Canoeing							
			TOTAL				
			AVERAGE				

FITNESS	ATTENDANCE		UNIT MARKS			UNIT	COMMENTS
	Present	Total	Skill	Social	Written	%	
Weight Training							
Fitness Training							
Motor Testing							
Fitness Knowledge							
			TOTAL				
			AVERAGE				

FINAL GRADE: ____________________

CREDITS: ____________________

SPECIAL CONSIDERATIONS

1. CO-EDUCATIONAL CLASSES

The common practice of setting different standards for males and females reinforces the notion that gender differences do exist. Non-gender standards should be used where activities do not favour either males or females. However, if only non-gender standards are established, either males or females could be at a disadvantage. Teachers must carefully examine the activity being taught in order to develop grading standards that are not biased for or against either males or females.

2. ABILITY GROUPING

Ability grouping as a means of facilitating varying skill differences is professionally endorsed but not widely used. It has the potential to be a useful device for teaching to the wide range of abilities found in most physical education classes. However, one must be cognizant that ability grouping can create special problems for evaluation. When using ability grouping, teachers must carefully consider the evaluation standards.

3. MICROCOMPUTER APPLICATIONS

The microcomputer can be a useful evaluation tool in physical education: at the present time, however, the supply of software is limited. Two software packages that could prove helpful in this area are:

Class Records
M. Falk and J. Kessel
Alphabetical Systems Ltd.
Edmonton, Alberta
(403) 481-5761

Canada Fitness Award
Microcomputer Program: Apple II (+ , e, c)
CAHPER
333 River Road
Ottawa, Ontario
K1L 8H9

4. STUDENT INVOLVEMENT

Involving students in the evaluation process can be an excellent motivator. Three systems that can do this are:

a. Contract grading: The teacher and the student determine the final grade by preparing a written contract. The contract establishes the type, quantity, and quality of work which must be achieved to obtain the contracted grade. This system allows flexibility and tends to be highly motivating for the student.

b. Self-evaluation: Students and the teacher determine the objectives jointly. Then, during the unit, students rate themselves on each objective (good, fair, poor). At the end of each week they determine a final grade for that week along with a written justification for the mark. The final grade is a combination of each student's and the teacher's mark.

c. Peer-grading: Following instruction on impartiality, skill analysis, and the use of rating scales, students are involved with rating their peers.

5. CUMULATIVE EXAMINATIONS

Traditionally, physical educators tend to test at the completion of each unit. A re-thinking of sport skills as concepts rather than isolated skills could assist with the development of an evaluation system that is cumulative in nature. Using such a notion, student grading focusing on concepts could follow a series of units, as opposed to a more traditional grading system that focuses on isolated skills at the completion of each unit. For example, could the common elements of the tennis serve, badminton smash, and overhand serve in volleyball be measured with a single psychomotor test? Could cognitive tests be designed to test knowledge in several units simultaneously? Could affective development be evaluated on an ongoing as opposed to a unit-by-unit approach?

SUMMARY QUESTIONS

Periodically, it is beneficial for physical educators to reflect upon their evaluation procedures. Some guiding questions that will assist with this are:

1. Is the evaluation system time efficient and based upon sound principles of evaluation?

2. Are accurate, up-to-date records of student achievement and progress being maintained?

3. Are grades weighted according to program emphasis?

4. Does the evaluation system allow for the consideration of student differences in physical fitness and all learning domains (psychomotor, cognitive and affective)?

CHAPTER TWO

MEASURING IN THE PSYCHOMOTOR DOMAIN

This chapter deals with the measurement of human movement. Psychomotor feedback is important if students are to understand what aspects of their performance are good and where improvement is needed. In addition, psychomotor tests are effective tools for motivating students to strive for higher goals in relation to physical performance. However, psychomotor test results form only part of the overall evaluative criteria. A balance must be maintained between physical skills, physical fitness, knowledge and understanding, social skills and positive attitudes. As a result, skill testing should not take up an inordinate amount of class time but should correspond to the grading percentage allocated to skill development in the evaluation policy.

This chapter begins by outlining different types of psychomotor evaluation. It provides suggestions for finding various psychomotor tests and information on how to construct one's own instruments. The collecting of data regarding psychomotor skills can be objective or subjective. Both methods should be justifiable and supported by sound evaluation principles.

COMMON PHILOSOPHIES

In the psychomotor area there are four common evaluation philosophies.

1. **PERFORMANCE GRADING**: Grades are assigned according to the skills achieved. This is the method used in most areas of the traditional curriculum. The disadvantage of this approach is that students who are unable to achieve reasonable marks become discouraged.

2. **IMPROVEMENT GRADING**: This approach serves as a good motivator for students because it allows students of various skill levels to achieve equally high grades. Its disadvantages are that it requires pre-testing, and less skilled students have an easier time showing improvement than do highly skilled students.

3. **EFFORT GRADING**: Students who participate on a regular basis and demonstrate a high degree of effort are awarded high marks. A disadvantage of this approach is that it is difficult to measure effort.

4. **COMBINATION**: A combination of performance, improvement, and effort is used to determine the final grade. This allows the teacher to allot a specified percentage of the final grade to each area.

SPORT SKILL TESTING

As students progress in their skill development, they require more specific information regarding their achievement. For example, a beginning tennis player may ask, "What am I doing wrong? I can't get my serve over the net!" An advanced player may require information on the best serve to use in a particular situation. Evaluation should reflect these changes in emphasis.

Beginners need to be tested on isolated skills in a closed environment, since they have yet to develop skills to a level where they can perform them well in game situations. This type of evaluation can be handled quite well with skill tests. Using the tennis example, beginning students may be asked to perform ten serves as part of their final evaluation. Intermediate or advanced students need to be scored on how well they can apply the skills in a game situation. In these instances, rating scales and checklists are best suited to evaluate performance; intermediate and advanced players can then be rated on their choice and application of serves during game situations.

A combination of the two techniques (skill testing and rating scales) works well in evaluating overall performance. Assuming that 40% of a student's grade is assigned to the psychomotor domain, as students develop skill in a particular sport, a sample evaluation breakdown could look like this:

Beginner	30% of the grade might be assigned to skills tests 10% to game application
Intermediate	20% of the grade to skill tests 20% to game application
Advanced	10% of the grade to skill tests 30% to game application

Note: These percentages are only examples and are not intended as guidelines.

The question that needs to be asked at this stage is: Are physical educators most interested in the process or the product of what has been taught? If it is the product, then a standardized skill test will measure how successful they were in reaching their objectives. If they are interested in process as well, physical educators will need to make use of a rating scale or checklist.

If teachers wish to construct their own psychomotor tests, some of the rating scales and checklists on the following pages may provide ideas regarding format and content. Other details of psychomotor tests by dimension, their source, and suggested age or gender application, are listed in Appendix A.

FIGURE 3
GOLF RATING SCALE
WOODS AND IRONS

7.	Excellent	Full swing, coordination and timing consistent, produce full speed at contact, flight of ball straight, trajectory appropriate to club.
6.	Very Good	Does not achieve full swing, timing and coordination consistent.
5.	Good	Some inconsistency in swing, contact good most of the time, does not achieve full power.
4.	Average	Inconsistent in swing and contact, no major faults.
3.	Fair	Inconsistent in swing, some faults in form, does not maintain body relationship to ball, contact erratic.
2.	Poor	Several faults in swing, makes contact most of the time but contact seldom produces proper flight.
1.	Very Poor	Many faults in swing, frequently misses ball, contact usually poor.

NAME	WOODS AND IRONS						
1.	1	2	3	4	5	6	7
2.	1	2	3	4	5	6	7
3.	1	2	3	4	5	6	7
4.	1	2	3	4	5	6	7
25.	1	2	3	4	5	6	7

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FIGURE 4
GOLF SWING CHECKLIST

CLASS ____________________

TIME ____________________

DATE ____________________

COMPONENTS OF SWING

STUDENTS	GRIP	STANCE	WRISTS	RT. ARM TO SHOULDER	LEFT ARM	BACKSWING	FORWARD SWING	POWER TO TIMING	FOLLOW-THROUGH	
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
25										

Poor	Fair	Average	Above Average	Excellent
E	D	C	B	A
1	2	3	4	5

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FIGURE 5
JUMP SHOT EVALUATION

Name ______________________ School Attending ______________________

Date ______________________ Checked By ______________________

(11 Point Checklist)	Excellent	Good	Poor
1. Body balance and control	______	______	______
2. Stance of player	______	______	______
3. Grip on ball	______	______	______
4. Elbow (position)	______	______	______
5. Proper position of ball just before release	______	______	______
6. Sighting the basket	______	______	______
7. Proper rotation of the ball	______	______	______
8. Strength of the shot	______	______	______
9. Follow-through	______	______	______
10. Arch of the ball	______	______	______
11. Concentration of shooter	______	______	______

Comments: ____

____

____

____

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FIGURE 6
CHECKLIST FOR RATING SOFTBALL BATTING SKILLS

Student's Name ______________________ Date ______________

Rated By ______________________ Score ______________

Directions: First check student's performance as good, fair, or poor on each item and then check deviations noted. Determine the student's score by assigning 1 point for poor, 2 for fair, and 3 for good, and totaling points.

		Rating		Deviations from Standard Performance
1. Grip	____	Good	________	Hands too far apart
	____	Fair	________	Wrong hand on top
	____	Poor	________	Hands too far from end of bat
2. Preliminary Stance	____	Good	________	Stands too near the plate
	____	Fair	________	Stands too far from the plate
	____	Poor	________	Stands too far forward toward pitcher
			________	Stands too far backward toward catcher
			________	Feet not parallel to line from pitcher to catcher
			________	Rests bat on shoulder
			________	Shoulders not horizontal
3. Stride or Footwork	____	Good	________	Fails to step forward
	____	Fair	________	Fails to transfer weight
	____	Poor	________	Lifts back foot from ground before swing
4. Pivot or Body Twist	____	Good	________	Fails to "wind up"
	____	Fair	________	Fails to follow-through with body
	____	Poor	________	Has less than 90° pivot
5. Arm Movement or Swing	____	Good	________	Arms held too close to body
	____	Fair	________	Rear elbow held too high
	____	Poor	________	Bat not held approximately parallel to ground
			________	Not enough wrist motion used
			________	Wrists not uncocked forcefully enough
6. General (eyes on ball, judgment of pitches, and the like)	____	Good	________	Body movements jerky
	____	Fair	________	Tries too hard; "presses"
	____	Poor	________	Fails to look at centre of ball
			________	Poor judgment of pitches
			________	Appears to lack confidence
			________	Bat used not suitable

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FIGURE 7
PERFORMANCE ANALYSIS SHEET FOR THE SIDESTROKE

DIRECTIONS. Check _✓_ all items that apply to the performance of this skill. Add other noted errors in the spaces provided.

NAME ______________________
(of performer)

NAME ______________________
(of analyzer)

ANALYSIS OF PERFORMANCE

BODY POSITION

- ______ The form is acceptable
- ______ The form is not acceptable because:
  - ______ Arms and legs not fully extended
  - ______ Legs not together
  - ______ Body not stretched and straight
  - ______ Body turned toward stomach-down position
  - ______ Body turned toward back-down position
  - ______ Head not turned toward the upper shoulder to facilitate breathing
  - (Other) ______________

ARMS

- ______ The form is acceptable
- ______ The form is not acceptable because:
  - ______ Pull of the leading (lower) arm too short
  - ______ Pull of leading arm too deep
  - ______ Leading arm not recovered with finger tips leading
  - ______ Elbow of leading arm not brought to ribs before recovery of that arm
  - ______ Training (upper) arm does not pull to thigh
  - ______ (Other) ______________

LEGS

- ______ The form is acceptable
- ______ The form is not acceptable because:
  - ______ Legs separated vertically; resulting in a breaststroke kick
  - ______ Inverted scissors kick used
  - ______ Legs do not bend enough at knees during recovery
  - ______ Knees brought too far in front of stomach during recovery
  - ______ Legs recovered too vigorously
  - ______ Legs not straightened before the squeeze
  - ______ Too little effort during squeeze
  - ______ Ankles not extended to point toes during late part of squeeze
  - ______ Legs pass each other at end of squeeze
  - ______ (Other) ______________

COORDINATION AND BREATHING

- The form is acceptable
- The form is not acceptable because:
  - ______ Both arms pull toward feet at same time
  - ______ Leading arm begins pull immediately after recovery
  - ______ Leading arm pulls at same time as delivered
  - ______ Kick delivered before leading arm ready to recover
  - ______ Exhalation is at a time other than during leg kick or during glide
  - ______ Inhalation does not follow immediately after exhalation
  - The duration of the glide is too brief
  - ______ (Other) ______________

From D. R. Kirkendall, J.J. Gruber, and R.E. Johnson, MEASUREMENT AND EVALUATION FOR PHYSICAL EDUCATORS. Copyright © 1980 Wm.C. Brown Publishers, Dubuque, Iowa. P. 139 Reprinted by special permission.

FIGURE 8
DANCE SKILLS RATING SCALE

Part A: Evaluation for each dance based upon:

1. Basic Step:
   a. Correct (2 points)
   b. Certain (2 points)

2. Use of Basic Steps -Transitions:
   a. Smooth (1 point)
   b. On time (1 point)
   c. Clear (1 point)

3. Variations:
   a. Many (2 points)
   b. Few (1 point)
   c. None (0 points)

Part B: Evaluation based on overall performance.

1. Rhythm:
   a. On (2 points)
   b. Smooth (1 point)
   c. Definite (1 point)

2. Footwork:
   a. Good (2 points)
   b. Step too long or too short

3. Body Position:
   a. Comfortable (5 points)
   b. Limp (3 points)
   c. Tense (1 point)

4. Lead (Boys):
   a. Good (4 points)
   b. Weak (3 points)
   c. Jerky (2 points)
   d. Late (1 point)

5. Follow (Girls):
   a. Good (4 points)
   b. Slow response (2 points)
   c. Leads (0 points)

6. Effort:
   a. Always puts forth 100% (5 points)
   b. Puts out 100% most of the time (4 points)
   c. Tries under motivation (3 points)
   d. Frequently fails to put forth (2 points)
   e. Never tries (1 point)

7. Style:
   a. Smooth/poised (5 points)
   b. Mechanical (3 points)
   c. Lacks confidence (3 points)

From Harris, Pittman and Wallen. DANCE A WHILE. Copyright © 1967. Burgess Publishing Company, Minneapolis, Minnesota. P. 29

FITNESS TESTING

There are many standardized tests available for evaluating fitness. A comprehensive list of fitness tests and sources is included in Appendix A.

EVALUATING IMPROVEMENT

Improvement is a difficult but essential area to measure if one is to consider individual differences such as body build, experience, maturity and physical ability. The major difficulty in measuring improvement is that it is more difficult to show improvement as a student approaches perfection in an activity. For example, a proficient swimmer would have difficulty shaving seconds off his or her score, while a beginner could display a great deal of improvement. The following is a common method for grading improvement with the use of pre- and post-testing:

> Determine the maximum score for the testing being used. An individual's final score is the difference between the pre- and post-test score divided by the individual's potential for improvement (the difference between the pre-test score and maximum test score) and multiplied by 100.
>
> For example, maximum test score = 75
>
> Student A's test score on test 1 = 35
> Potential for improvement = 75–35 = 40
> Student A's test score on test 2 = 50
> Improvement = $\frac{50-35}{40} \times 100 = 37.2$
>
> Student B's test score on test 1 = 70
> Potential for improvement = 75–70 = 5
> Student B's test score on test 2 = 73
> Improvement = $\frac{73-70}{5} \times 100 = 60$
>
> In this case student B showed more improvement than A, although at first glance the reverse appeared to be true.

SUMMARY QUESTIONS

Following is a series of questions to be considered when evaluating psychomotor skills:

1. Does the evaluation tool measure stated objectives?
2. Does the evaluation scheme consider individual differences?
3. Are the tests valid, reliable and objective?
4. Is the evaluation scheme subjective or objective, or some combination of the two?
5. Can the ways in which the psychomotor marks were achieved be explained?
6. Does some portion of the psychomotor grade include improvement?
7. Does the skill test reflect game-like situations whether the skill is tested in isolation or within a game?
8. Does the evaluation provide feedback that will motivate the students?
9. Have the students developed sufficient skill to enjoy the activity?

CHAPTER THREE

MEASURING IN THE COGNITIVE DOMAIN

Measurement in the cognitive domain refers to the measurement of knowledge and understanding. This chapter outlines testing considerations, test construction, and the types of tests that may be utilized to measure cognitive development. Snap tests and oral quizzes will not be mentioned, but they do form an integral part of everyday instruction. This chapter deals only with paper and pencil forms of cognitive tests.

TEST CONSIDERATIONS

1. **EMPHASIS**: Cognitive testing should reflect the emphasis placed on the different components of the instructional content. For example, if 15% of instructional time was spent on rules, 60% on technique, and 25% on strategy, then the written test should reflect that balance.

2. **FOLLOW-UP**: When written tests are returned to students, one should go over questions the students found difficult. This will clarify the material for them and help in future test revisions.

3. **RESULTS**: Students should know how the teacher intends to use the results.

TEST CONSTRUCTION

Since measurement in the cognitive domain should be as accurate as possible, tests should be prepared carefully. Some considerations for the construction of cognitive tests follow:

1. **OBJECTIVE/SUBJECTIVE**: Tests may be subjective, objective or some combination of the two. Objective cognitive tests have a right and wrong answer; for example, multiple choice, matching, true/false and completion. Subjective cognitive tests are marked using the scorer's personal judgment as to quality of response; for example, essay, long answer, short answer.

2. **TIME**: How much time should students have to complete the test? When should the test be administered?

3. **QUESTIONING LEVEL**: Does the test emphasize recall and exclude technique and strategy questions?

4. **CONTENT BALANCE**: Does the weighting given to different areas of content (i.e., etiquette, safety, history, rules, terminology, techniques, skills, strategies and equipment) reflect the balance of instructional time?

5. **TYPE OF QUESTION**: Tests may be constructed using different types of questions such as:

   a. true or false
   b. multiple choice
   c. matching

   d. classification (a form of matching question that has fewer choices but several items to choose from)
   e. re-arranging (items must be placed in sequence)
   f. diagrams, and
   g. essay and short answer.

6. **FORMAT**: A good format insures legibility and ease of understanding for students. Tests should be typed and carefully proofread to insure clarity and precision of both instructions and questions.

7. **ANSWER SHEET**: The use of answer sheets allows the test to be reused and makes the test easier to mark.

8. **ANSWER KEY**: The use of an answer key facilitates test marking.

9. **TEST EVALUATION**: Tests should be validated. (See Barrow and McGee (1979) for several methods of test validation.)

BLOOM'S TAXONOMY

Bloom's Taxonomy (1956) of cognitive levels can help teachers determine if their tests measure lower or higher levels of thinking. Bloom's hierarchy is:

1. **KNOWLEDGE**: This refers to the ability to recall facts. Questions relating to knowledge deal with recognition, recall, identification, and definition.

2. **COMPREHENSION**: This refers to the ability to redefine. Questions relating to comprehension deal with interpreting, summarizing, paraphrasing, illustrating and restating.

3. **APPLICATION**: This refers to the ability to make use of ideas. Questions relating to application deal with generalizing and relating facts to different situations.

4. **ANALYSIS**: This refers to the ability to divide material into parts. Questions relating to analysis deal with identifying, comparing and categorizing component parts.

5. **SYNTHESIS**: This refers to the ability to create something new. Questions relating to synthesis deal with planning, designing and producing.

6. **EVALUATION**: This refers to the ability to make judgments. Questions relating to evaluation deal with assessing and validating.

Barrow and McGee (1979) provide sample questions related to each of the six areas of Bloom's Taxonomy. Appendix C is a source list for cognitive tests.

SUMMARY QUESTIONS

1. Does the test measure the objectives?
2. Does the test reflect the balance of instruction?
3. Was the marked test reviewed with the students?
4. Does the test examine all levels of thinking?
5. Has the test been planned and prepared carefully?

CHAPTER FOUR

MEASURING IN THE AFFECTIVE DOMAIN

This domain is concerned with the social behaviour, attitudes and self-concept of students. It requires that physical educators develop affective objectives, teach to those objectives, and measure the behaviours exhibited. Affective development should not be a hit or miss by-product of a physical education program but a direct result of formalized teaching strategies designed to develop affective learning. This chapter provides ideas to assist in evaluating development in the affective domain.

FOCUS

That which is evaluated should be determined by the program objectives. Affective behaviours such as sportsmanship, leadership, and followership are usually measured. In addition, positive attitudes toward physical activity, toward oneself and others are commonly measured.

INSTRUMENTS

As in the case with the psychomotor and cognitive domains, one may use standardized tests or teacher constructed instruments to evaluate in the affective domain. The use of some form of instruments should be used to measure in the affective domain in order to make evaluation as objective as possible and to provide written documentation for students, parents, teachers, and administrators. A summary of the most common instruments follows:

1. Rating scales and checklists are often used to assess the degree to which students operate within their social environments. These instruments can be used in such areas as participation, peer relations, self-control, leadership and cooperation. Scales and checklists use a Likert system (1-5) which assigns a value to a behaviour. This value can then be converted to a grade. One concern when using rating scales and checklists is that students may not have equal opportunity to display behaviours.

2. Questionnaires can measure attitudes by asking students to reveal their feelings about specific topics. A concern with questionnaires is that students may record what they consider to be the most desirable answer (what the teacher wants to hear) yet not display the attitude in a game situation.

3. Anecdotal records are written records of behaviour displayed by students. Teachers record what they see and hear. One of the advantages of anecdotal records is that they provide information that cannot be obtained using other instruments. Since they are so time consuming to develop, anecdotal records are most often used when dealing with small numbers of students or in special cases.

CONSIDERATIONS

Before measuring affective behaviours, there are a number of points that should be considered:

1. Most instruments used to measure in the affective domain are designed to discover which students deviate from "normal" (socially-acceptable) behaviour.

2. Students' cultural backgrounds may influence their responses.

3. Affective measures are difficult to validate.

INTEREST AND ATTITUDE SURVEYS

Students can provide physical educators with a great deal of information on the effects of a program on them. Although there are surveys available (see Appendix D) most will need to be adapted to fit local needs. Instruments should be constructed to allow students to voice their opinions on such subjects as:

1. attitudes toward certain types of activities
2. competition
3. program content and emphasis, and
4. instruction.

Want (1932) is a helpful reference if teachers are creating items for their own attitude and interest surveys.

CASE STUDIES

Teachers can plan to teach and evaluate ethical behaviour by having students react to case studies focusing upon selected ethical dilemmas. For example, a common objective in physical education is the development of sportsmanship. An appropriate case study in this area, published by Haskins and Hartman (1960), is as follows:

> Player A is playing player B in a tennis match. Player A beats B in the first set 6 games to 1. Player B continually stops to tie his shoes, wipes his face every few minutes, and moves slowly into position for each play. Player B discovers that these actions upset player A. He continues these maneuvers and beats player A in the second and third sets, winning the match.
>
> a. Player B was clever to use these tactics since they helped him to win.
> b. Player A should have used the same tactics against player B.
> c. Player B should not have taken unfair advantage of player A.
> d. Since player A could have used the same tactics as player B, player B was right to use them.
> e. Player A, were he a good player, would not have let player B's tactics bother him.

SOCIAL ADJUSTMENT INSTRUMENTS

The way students interact with one another and adapt to behaviour standards is often measured with rating scales. Figures 9 to 12 are included as samples of standardized tests, and to serve as examples from which teachers can develop their own instruments. (See Appendix E for a more detailed listing of the affective instruments available.)

SUMMARY QUESTIONS

1. Are the affective objectives being taught to and measured?

2. Is the measurement in the affective domain as objective as possible?

FIGURE 9
COWELL SOCIAL ADJUSTMENT INDEX

FORM A

Date:________ Grade: _____
School:_______ Age: _____
Describer:________________

____

Last Name First Name

Instruction: Think carefully of the student's behaviour in group situations; check each behaviour trend according to its degree of descriptiveness.

Behaviour trends	*Descriptive of the student*			
	Markedly (3)	*Some-what (2)*	*Only slightly (1)*	*Not at all (0)*
1. Enters heartily and with enjoyment into the spirit of social intercourse.				
2. Frank, talkative and sociable, does not stand on ceremony.				
3. Self-confident and self-reliant, tends to take success for granted, strong initiative, prefers to lead.				
4. Quick and decisive in movement, pronounced or excessive energy output.				
5. Prefers group activities, work or play, not easily satisfied with individual output.				
6. Adaptable to new situations, makes adjustments readily, welcomes change.				
7. Is self-composed, seldom shows signs of embarrassment.				
8. Tends to elation of spirits, seldom gloomy or moody.				
9. Seeks a broad range of friendships, not selective or exclusive in games and the like.				
10. Hearty and cordial, even to strangers, forms acquaintanceships very easily.				

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FIGURE 10
COWELL SOCIAL ADJUSTMENT INDEX

FORM B

Date:________ Grade: _____
School:_______ Age: _____
Describer:________________

____

Last Name First Name

Instruction: Think carefully of the student's behaviour in group situations; check each behaviour trend according to its degree of descriptiveness.

Behaviour trends	*Descriptive of the student* *Markedly* *(3)*	*Some-what* *(2)*	*Only slightly* *(1)*	*Not at all* *(0)*
1. Somewhat prudish, awkward, easily embarrassed in his social contacts.				
2. Secretive, seclusive, not inclined to talk unless spoken to.				
3. Lacking in self-confidence and initiative, a follower.				
4. Slow in movement, deliberative, or perhaps indecisive. Energy output moderate or deficient.				
5. Prefers to work and play alone, tends to avoid group activities.				
6. Shrinks from making new adjustments, prefers the habitual to the stress of reorganization required by the new.				
7. Is self-conscious, easily embarrassed, timid, or "bashful".				
8. Tends to depression, frequently gloomy or moody.				
9. Shows preference for a narrow range of intimate friends and tends to exclude others from his association.				
10. Reserved and distant except to intimate friends, does not form acquaintanceships readily.				

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FIGURE 11
SOCIAL EVALUATION SCORE CARD RATING SCALE FOR SOCIAL SKILLS

INTEREST	5	Enters into activity with enthusiasm and interest
	4	Has a few lapses of enthusiasm and interest
	3	When motivated is enthusiastic
	2	Seldom enthusiastic
	1	Rarely an enthusiastic performer
EFFORT	5	Always puts forth 100%
	4	Puts out 100% most of the time
	3	Tries under motivation
	2	Frequently fails to put forth
	1	Never tries
SELF-CONTROL	5	Uses good judgment and displays honesty
	4	Uses good judgment most of the time and is honest
	3	Frequently shows destructive tendencies but is honest
	2	Frequently shows destructive tendencies, and lies about it
	1	Is a destructive force in class
DEPENDABILITY	5	Never neglects duties and responsibilities
	4	Occasionally neglects responsibilities
	3	Must be followed up frequently
	2	Shirks responsibility
	1	Completely undependable
COOPERATION	5	Highly cooperative class member
	4	Cooperative most of the time
	3	Cooperative under duress
	2	Frequently uncooperative
	1	Uncooperative most of the time

FIGURE 11
SOCIAL EVALUATION SCORE CARD RATING SCALE FOR SOCIAL SKILLS (cont'd)

ATTENTION	5	Always concentrates on activities at hand
	4	Concentrates most of the time
	3	Concentrates when motivated
	2	Frequently fails to concentrate on activities
	1	Never concentrates
SPORTSMANSHIP	5	Always displays good sportsmanship
	4	A good sport most of the time
	3	Tendency toward poor sportsmanship
	2	Frequently displays poor sportsmanship
	1	Usually displays poor sportsmanship
APPEARANCE	5	Always dressed for class
	4	Only one or two violations
	3	Occasionally violates regulations
	2	Frequently violates regulations
	1	Continually violates regulations
LEADERSHIP AND FOLLOWERSHIP	5	Uses initiative as a leader and is a good follower
	4	Can lead at times and is a good follower
	3	A good follower but has trouble leading
	2	Poor leader and fair follower
	1	Never leads and poor follower
SELF AND GROUP ADJUSTMENT	5	Always friendly and is well liked
	4	Generally friendly and well liked
	3	Frequently unsocial
	2	Generally unsocial and unliked
	1	Withdrawn from the group

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FIGURE 12
SOCIAL, PERSONAL, EMOTIONAL DEVELOPMENT

Class List Period: ________	Interest	Effort	Self-control	Dependability	Cooperation	Attention	Sportsmanship	Appearance	Leadership	Followership	Self and Group Adjustment	TOTAL
1.												
2.												
3.												
4.												
5.												
6.												
7.												
8.												
9.												
10.												

RECOMMENDED RESOURCES

Boscoe, J.S., and W.F. Gustafson. (1983) Measurement and Evaluation in Physical Education. Englewood Cliffs, N.J.: Prentice-Hall.

Kirkendall, D., Gruber, J., and R. Johnson. (1980) Measurement and Evaluation for Physical Educators. Dubuque, Iowa: Wm. C. Brown.

Phillips, D., and J. Hornak. (1979) Measurement and Evaluation in Physical Education. Toronto: John Wiley & Sons.

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Bloom, B., et al. (Eds.) (1956) Taxonomy of Educational Objectives: Handbook I: Cognitive Domain. New York: David McKay.

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CAPHER. (1980) CAPHER Fitness Performance II Test Manual. Ottawa: CAPHER.

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Wang, C. (1932) "Suggested Criteria for Writing Attitude Statements." Journal of Social Psychology, 3.

APPENDIX A

PSYCHOMOTOR TESTS

The psychomotor tests listed are organized into the dimensions of aquatics, dance, fitness, games (A and B), gymnastics, and individual activities.

Each listing provides information on test applicability (grade, gender, level, age) and norms, if available. The source of each test is also provided.

AQUATICS

1. RED CROSS PROGRESSIVE SWIMMING TESTS
   Source: Kirkendall et al., 1980

2. ROSENTSWIEG REVISION OF THE FOX POWER TEST
   Source: Barrow and McGee, 1979
   Norms: No

3. BURRIS SPEED STROKE TEST OF THE CRAWL
   Source: Barrow and McGee, 1979
   Intermediate to advanced
   Norms: Yes

4. MANSFIELD WEIGHTED CHECKLIST FOR THE BREASTSTROKE
   Source: Barrow and McGee, 1979
   Norms: No

5. RATING SCALE FOR THE ELEMENTARY BACKSTROKE
   Source: Kirkendall et al., 1980
   Norms: No

6. UNIVERSITY OF KENTUCKY SWIMMING PROFICIENCY TEST
   Source: Kirkendall et al., 1980
   Norms: College T scores

7. FOX SWIMMING POWER TEST
   Source: Boscoe and Gustafson, 1983
   Advanced
   Norms: No

DANCE

1. ASHTON GROSS MOTOR RHYTHM TEST
   Source: Boscoe and Gustafson, 1983
   Norms: No

2. RHYTHM RATING SCALE
   Source: Boscoe and Gustafson, 1982
   Norms: No

FITNESS

PHYSICAL FITNESS TEST BATTERIES

1. CANADA FITNESS TEST
   (push ups, shuttle run, one minute speed sit-ups, standing long jump, 50 metre run, endurance run)
   Source: CAPHER, 1980
   Boys and girls, ages 6 to 17
   Norms: Yes

2. GLOVER PHYSICAL FITNESS TEST ITEMS FOR PRIMARY GRADE CHILDREN
   (standing broad jump, shuttle race, seal crawl, sit-ups)
   Source: Barrow and McGee, 1979
   Boys and girls, ages 6 to 9
   Norms: No

3. NORTH CAROLINA MOTOR FITNESS BATTERY
   (sit-ups, side-stepping, standing broad jump, modified pull-up, squat thrust)
   Source: Barrow and McGee, 1979
   Boys and girls, ages 9 to 10
   Norms: Yes

CARDIOVASCULAR TESTS

1. COOPER'S AEROBICS TEST (RUNNING)
   Source: Barrow and McGee, 1979
   Junior high girls and 17 + men and women
   Norms: Yes

2. COOPER'S 12 MIN. WALK-RUN
   Source: Phillips and Hornak, 1979
   Boys and girls, ages 13 to 29
   Norms: Yes

3. COOPER'S WOMEN'S OPTIONAL 12 MIN. RUNNING TEST
   (walk-run)
   Source: Kirkendall et al., 1980
   Senior high
   Norms: Yes

4. COOPER'S WOMEN'S OPTIONAL 12 MIN. SWIMMING TEST
   Source: Kirkendall et al., 1980
   Senior high
   Norms: Yes

5. COOPER'S WOMEN'S OPTIONAL CYCLING TEST
   Source: Kirkendall et al., 1980
   Senior high
   Norms: Yes

6. COOPER'S WOMEN'S OPTIONAL THREE-MILE WALK TEST
    Source: Kirkendall et al., 1980
    Senior high
    Norms: Yes

7. KASCH PULSE RECOVERY TEST
    Source: Barrow and McGee, 1979
    All ages
    Norms: Yes

8. HARVARD STEP TEST (BROUHA)
    Source: Kirkendall et al., 1980; Phillips and Hornak, 1979; Boscoe and Gustafson, 1983
    Boys
    Norms: Yes

9. MODIFICATIONS TO THE HARVARD STEP TEST
    Source: Kirkendall et al., 1980; Boscoe and Gustafson, 1983
    Junior and senior high
    Norms: Yes

10. COTTON GROUP CARDIOVASCULAR STEP TEST
    Source: Kirkendall et al., 1980
    Senior high boys and girls
    Norms: No

11. HARVARD STEP TEST GALLAGHER AND BROUHA MODIFICATION
    Source: Boscoe and Gustafson, 1983
    Senior high boys
    Norms: Yes

12. CLARKE MODIFICATION (COLLEGE WOMEN)
    Source: Boscoe and Gustafson, 1983
    Norms: No

13. BROUHA AND BALL MODIFICATION
    Source: Boscoe and Gustafson, 1983
    Elementary boys and girls
    Norms: Yes

14. SKUBIC AND HODGKINS MODIFICATION
    Source: Boscoe and Gustafson, 1983
    Girls and women
    Norms: No

15. SCHNEIDER TEST
    Source: Boscoe and Gustafson, 1983
    Girls and women
    Norms: No

STRENGTH

1. GRIP STRENGTH TEST
    Source: Phillips and Hornak, 1979
    Boys and girls, ages 6 to 18
    Norms: No

2. FLEXED LEG SIT-UP
   Source: Phillips and Hornak, 1979
   Junior and senior high boys and girls
   Norms: No

3. PUSH-UP
   Source: Phillips and Hornak, 1979
   Junior and senior high boys and girls
   Norms: No

FLEXIBILITY

1. SIT AND REACH
   Source: Boscoe and Gustafson, 1983
   Elementary, junior and senior high
   Norms: No

BODY FAT

1. PERCENT BODY FAT AND BODY DENSITY
   Source: Kirkendall et al., 1980
   Ages 5 to 50
   Norms: Yes

GAMES A

BASKETBALL

1. HARRISON BASKETBALL BATTERY
   (field goal test, speed pass test, dribble test, rebound test)
   Source: Barrow and McGee, 1979
   Junior and senior high boys and girls

2. ANTRIM BASKETBALL SKILL TEST
   Source: Barrow and McGee, 1979
   Beginners
   Norms: No

3. STUBBS BALL HANDLING TEST
   Source: Barrow and McGee, 1979
   Grade 10
   Norms: No

4. TERRIBILE BASKETBALL RATING SCALE
   (game evaluation)
   Source: Barrow and McGee, 1979
   Norms: No

5. JOHNSON BASKETBALL BATTERY
   (basketball shooting, throws for accuracy, dribble)
   Source: Kirkendall et al., 1980
   Boys
   Norms: No

6. GIRLS BASKETBALL BATTERY
   (bounce and shoot, push pass)
   Source: Kirkendall et al., 1980
   Norms: No

7. AAHPER BASKETBALL SKILLS TEST
   (overarm pass for accuracy (boys), dribbling (girls))
   Source: Boscoe and Gustafson, 1983
   Ages 12 to 18
   Norms: Yes

FIELD HOCKEY

1. SCHMITHALS-FRENCH ACHIEVEMENT TEST IN FIELD HOCKEY
   (dribble/dodge/circular tackle and drive, goal shooting - straight/right/left, fielding and drive)
   Source: Barrow and McGee, 1979; Kirkendall et al., 1980; Boscoe and Gustafson, 1983
   Senior high girls
   Norms: No

2. HENRY-FRIEDEL FIELD HOCKEY TEST
   Source: Barrow and McGee, 1979
   Norms: No

3. STRAIT FIELD HOCKEY RATING SCALE
   Source: Barrow and McGee, 1979
   Norms: No

FOOTBALL

1. BORLESKE TOUCH FOOTBALL TEST
   (forward pass, punt, running)
   Source: Barrow and McGee, 1979
   Senior high boys
   Norms: No

2. AAHPER FUNDAMENTAL SKILLS OF FOOTBALL
   (forward pass for distance, 50 yard dash with football, blocking, forward pass for accuracy, punt for distance, ball changing zig zag run, catching the forward pass, pull-out, kick-off, dodging run)
   Source: Kirkendall et al., 1980
   Boys , ages 10 to 18
   Norms: Yes

ICE HOCKEY

1. MERRIFIELD-WALFORD ICE HOCKEY SKILLS TEST
   (puck carry)
   Source: Boscoe and Gustafson, 1983
   Ages 10 to 18
   Norms: No

LACROSSE

1. ENNIS MULTI-SKILL TEST IN LACROSSE
   Source: Barrow and McGee, 1979
   Intermediate to advanced women
   Norms: No

2. HODGES LACROSSE RATING SCALE
   Source: Barrow and McGee, 1979
   Norms: No

SOCCER

1. WARNER TEST OF SOCCER SKILLS
   (distance kick, dribble)
   Source: Barrow and McGee, 1979
   Junior and senior high boys
   Norms: No

2. MITCHELL MODIFICATION OF THE MCDONALD SOCCER TEST
   Source: Barrow and McGee, 1979
   Grades 5 to 6, junior high boys and girls
   Norms: No

3. SMITH PICK-UP TEST TO SELF
   Source: Barrow and McGee
   Junior and senior high boys and girls
   Norms: No

4. MCDONALD SOCCER SKILL TEST
   Source: Boscoe and Gustafson, 1983
   Norms: No

SOFTBALL

1. SHICK BATTERY OF DEFENSIVE SOFTBALL SKILLS
   (repeated throws, fielding test, target test)
   Source: Barrow and McGee, 1979
   Boys and girls
   Norms: No

2. CHECKLIST FOR RATING SOFTBALL BATTING SKILLS
   Source: Barrow and McGee, 1979
   Norms: No

3. AAHPER SOFTBALL SKILLS TEST
   (throw for distance, overhead throw for accuracy, underhand pitching, speed throw, fungo hitting, fielding ground balls, catching fly balls)
   Source: Kirkendall et al., 1980; Boscoe and Gustafson, 1983
   Boys and girls, ages 10 to 18
   Norms: Yes

VOLLEYBALL

1. HELMAN VOLLEYBALL TESTS
   (face pass, self-bump, wall spike)
   Source: Barrow and McGee, 1979
   Norms: No

2. PETRY VOLLEYBALL SERVE TEST
   Source: Barrow and McGee
   Senior high boys and girls
   Norms: No

3. MODIFIED BRADY VOLLEYBALL TEST
   Source: Barrow and McGee, 1979
   Senior high boys
   Norms: No

4. HIGH WALL VOLLEY TEST
   Source: Barrow and McGee, 1979
   Senior high girls
   Norms: No

5. SUTTINGER VOLLEYBALL RATING SCALE
   Source: Barrow and McGee, 1979
   Norms: No

6. AAHPER VOLLEYBALL TEST
   (volleying, serving, passing, set-up)
   Source: Kirkendall et al., 1980; Boscoe and Gustafson, 1983
   Boys and girls, ages 10 to 18
   Norms: Yes

7. CUNNINGHAM AND GARRISON HIGH WALL VOLLEY TEST
   Source: Boscoe and Gustafson, 1983
   Norms: No

GAMES B

BADMINTON

1. HICKS BADMINTON TEST
   (clear, smash, strategy)
   Source: Barrow and McGee, 1979
   Boys and girls, beginners to intermediate
   Norms: No

2. FRENCH SHORT SERVE TEST
   Source: Barrow and McGee, 1979; Kirkendall et al., 1980; Boscoe and Gustafson, 1983
   Boys and girls
   Norms: available in Boscoe and Gustafson, 1983

3. MILLER WALL VOLLEY TEST
   Source: Barrow and McGee, 1979
   Grades 10 to 12
   Norms: No

4. BOBRICH BADMINTON OBSERVATIONAL RATING SCALE
   (long serve, long serve return, short serve, short serve return, clear, smash, lob, backhand drive, drop, strategies and knowledge)
   Source: Barrow and McGee, 1979
   Norms: No

5. BADMINTON ABILITY RATING SCALE
   Source: Kirkendall et al., 1980
   Norms: No

6. FRENCH CLEAR TEST
   Source: Kirkendall et al., 1980; Boscoe and Gustafson, 1983
   Norms: available only in Boscoe and Gustafson, 1983

7. LOCKHART AND MACPHERSON BADMINTON WALL VOLLEY TEST
   Source: Boscoe and Gustafson, 1983
   College age
   Norms: Yes

HANDBALL

1. FOUR-WALL HANDBALL TEST
   (service placement, total wall volley, back wall placement)
   Source: Barrow and McGee, 1979
   Norms: No

2. CRIST ONE-WALL HANDBALL TEST ITEMS
   (kill shot, power test)
   Source: Barrow and McGee, 1979

3. PENNINGTON, DROWATZKY, DAY, HANSON HANDBALL TEST
   Source: Boscoe and Gustafson, 1983
   Norms: No

RACQUETBALL

1. HALVERSON RACQUETBALL SKILLS TEST ITEMS
   (speed of movement, thirty second volley)
   Source: Barrow and McGee, 1979
   Beginners
   Norms: No

TABLE TENNIS

1. MOTT-LOCKHART TABLE TENNIS TEST
   Source: Barrow and McGee, 1979
   Senior high boys and girls
   Norms: No

TENNIS

1. SHERMAN UNTIMED CONSECUTIVE RALLY TEST
   Source: Barrow and McGee, 1979
   Beginners
   Norms: No

2. KEMP-VINCENT RALLY TEST
   Source: Barrow and McGee, 1979
   Beginners to advanced
   Norms: No

3. HAMER "MINI-MATCH" OF TENNIS ABILITY
   Source: Barrow and McGee, 1979
   Beginners to intermediate
   Norms: No

4. BROER-MILLER FOREHAND-BACKHAND DRIVE TEST
   Source: Barrow and McGee, 1979; Kirkendall et al., 1980
   Secondary
   Norms: No

5. WISCONSIN WALL VOLLEY TEST FOR SERVE
   Source: Barrow and McGee, 1979
   Senior high
   Norms: No

6. ALOIA TENNIS SERVICE RETURN TEST
   Source: Barrow and McGee, 1979
   Advanced
   Norms: No

7. DYER WALLBOARD TEST
   Source: Kirkendall et al., 1980
   Norms: No

8. HEWITT TENNIS ACHIEVEMENT TEST
   (service placement, serve speed, forehand placement, backhand placement)
   Source: Boscoe and Gustafson, 1983
   Beginners to advanced
   Norms: Yes

GYMNASTICS

1. ELLENBRAND GYMNASTICS SKILLS TEST
   (balance beam, floor exercise, uneven parallel bars, vaulting)
   Source: Barrow and McGee, 1979
   Beginners to advanced
   Norms: No

2. HARRIS TUMBLING AND APPARATUS PROFICIENCY TEST
   (tumbling, parallel bars, horizontal bars, trampoline)
   Source: Barrow and McGee, 1979
   Norms: No

3. WETTSTONE GYMNASTICS POTENTIAL TEST
   Source: Boscoe and Gustafson, 1983
   Norms: No

INDIVIDUAL ACTIVITIES

ARCHERY

1. MODIFIED CHICAGO ROUND
   Source: Barrow and McGee, 1979
   Must be able to shoot 20 yds.
   Norms: No

2. FARROW ARCHERY TEST
   Source: Barrow and McGee, 1979
   Boys and girls: 20 yd. shoot
   Norms: No

3. AAHPER ARCHERY SKILL TEST
   Source: Kirkendall et al., 1980; Boscoe and Gustafson, 1983
   Boys and girls, ages 12 to 18
   Norms: Yes

4. HYDE ARCHERY ACHIEVEMENT TEST
   Source: Boscoe and Gustafson, 1983
   Boys and girls, ages 10 to 18
   Norms: Yes

BOWLING

1. SELF-TEST
   Source: Kirkendall et al., 1980
   Norms: No

2. LIBA AND OLSEN SPOT BOWLING TEST
   Source: Boscoe and Gustafson, 1983
   Norms: No

GOLF

1. ROWLANDS GOLF SKILLS TEST
   (five iron test, short pitch test)
   Source: Barrow and McGee, 1979
   Boys and girls
   Norms: No

2. VANDERHOOF RATING SCALE FOR GOLF
   Source: Barrow and McGee, 1979; Kirkendall et al., 1980
   Norms: No

3. VANDERHOOF GOLF TEST
   Source: Boscoe and Gustafson, 1983
   Norms: Yes

TRACK AND FIELD

1. NIELSON AND COZENS TRACK SKILLS
   (sprints)
   Source: Boscoe and Gustafson, 1983
   Boys and girls, elementary to junior high

WRESTLING

1. SEAVERS TEST FOR WRESTLING POTENTIAL
   Source: Boscoe and Gustafson, 1983

APPENDIX B

TESTS AND AWARD PROGRAM RESOURCES

CANOEING

1. Red Cross Society, 95 Wellesley St. East, Toronto, Ontario, M4Y 1H6.
2. Canadian Recreational Canoe Association, 333 River Road, Ottawa, Ontario, K1L 8B9.

FIRST AID

1. Safety Orientated First Aid, St. John's Ambulance.

GYMNASTICS

1. Participation and Achievement Awards Scheme, Canadian Gymnastics Federations, 333 River Road, Ottawa, Ontario, K1L 8B9.

OLYMPIC

1. Junior Olympic Awards Program, Canadian Olympic Association, 333 River Road, Ottawa, Ontario, K1L 8B9.

SKATING

1. National Skating Tests, Canadian Figure Skating Association, 333 River Road, Ottawa, Ontario, K1L 8B9.

SOCCER

1. Skill Awards Program, Canadian Soccer Association, 333 River Road, Ottawa, Ontario, K1L 8B9.

SQUASH

1. Five Star Junior Proficiency Award Program, Canadian Squash Raquets Association, 333 River Road, Ottawa, Ontario, K1L 8B9.

TRACK AND FIELD

1. Run, Jump and Throw Program, Canadian Track and Field Association, 333 River Road, Ottawa, Ontario, K1L 8B9.

APPENDIX C

SOURCES OF COGNITIVE TESTS

1. Andrews, E.R. (1963) Physical Education for Girls and Women. (2nd ed) Englewood Cliffs, N.J.: Prentice-Hall (includes quizzes for 20 activities).
2. Dintman, G.B., and L.M. Barrow. (1970) Instruction and Evaluation Manual for Teachers to Accompany a Comprehensive Manual of Physical Activities for Men. New York: Appleton Century Crofts Educational Division (contains 24 tests).
3. Educational Testing Service. (1970) AAHPER Cooperative Physical Education Tests for Elementary, Junior High School and Senior High School. New York: Princeton Educational Testing Service.
4. Fait, H. (1961) A Manual for Physical Education Activities (2nd ed) Philadelphia: W.B. Saunders (tests for 38 activities).

NOTE: More extensive listings for cognitive tests can be found in Barrow and McGee, 1979 and Kirkendall et al., 1980.

APPENDIX D

STUDENT INTEREST AND ATTITUDE SURVEYS

1. Adams, R.S. (1963) Two Scales for Measuring Attitude Toward Physical Education. Research Quarterly, Vol. 34 (1).

2. Carre, Dr. A. British Columbia Assessment of Physical Education, 1979. General Report. Ministry of Education, Province of British Columbia.

3. Kappes, E. (1954) Inventory to Determine Attitudes of College Women Toward Physical Education and Student Services of the Physical Education Department. Research Quarterly, Vol. 25.

4. McCue, B.F. (1953) Constructing an Instrument for Evaluating Attitudes Towards Intensive Competition in Team Games. Research Quarterly, Vol. 24.

APPENDIX E

INSTRUMENTS FOR EVALUATING THE AFFECTIVE DOMAIN

Barrow and McGee (1979) includes the following tests:

SOCIAL MEASURES

- Peterson Social Efficiency Scale
- Cowell Social Adjustment Index
- Zodikoff Scale of Social Attitudes
- Horrocks Prosocial Play Behaviour Inventory
- Nelson Leadership Questionnaire
- Cowell Personal Distance Scale
- Cook Sociometric Status Index

ATTITUDE MEASURES

- Edgington Attitude Scale for High School Freshman Boys
- Penman Physical Education Attitude Inventory for Inner-City Junior High School Girls
- Dell Attitude Scale for High School Freshman Athletes
- Sonstroem Physical Activity Attitude Inventory
- Toulmin Elementary Physical Education Attitude Scale
- Children's Attitude Toward Physical Education
- McMahan Sportsmanship Questionnaire
- Football Playing Ability and Attitude Rating Scale

SELF-CONCEPT MEASURES

- How I See Myself Scale
- Doudlah Movement-Concept Statements
- Wiese Body Image Q-Sort (Revised)
- Cratty Adaptation of Piers-Harris Self-Concept Scale
- Nelson-Allen Movement Satisfaction Scale
- Tanner Movement Satisfaction Scale

GV 225 A3 Z9 A315 1988 GR-7-12
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